



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/755,987      | 01/13/2004  | Chao-Chih Chang      | CU-3539 RJS         | 2257             |

26530 7590 11/09/2006

LADAS & PARRY LLP  
224 SOUTH MICHIGAN AVENUE  
SUITE 1600  
CHICAGO, IL 60604

EXAMINER

ENSEY, BRIAN

ART UNIT PAPER NUMBER

2615

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/755,987

Applicant(s)

CHANG, CHAO-CHIH

Examiner

Brian Ensey

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-7 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of claims 1-7 in the reply filed on 8/25/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kay et al. U.S. Patent No. 6,741,709.

Regarding claim 1, Kay discloses a condenser microphone (See col. 3, lines 20 and 21) comprising: a condenser housing (20) defining an inner space therein; and a variable gap condenser enclosed in said inner space in said condenser housing and including an insulating substrate (32, a nest as illustrated in Fig. 1 and described in col. 3, lines 43-49 which is inherently an insulator since electrical connections of FET 180 to connections on nest 32 and further described as a PCB for mounting to the FET, i.e. an insulating substrate, See col. 5, lines 1-6), a conductive fixed back plate (12, made from a semiconductor or silicon i.e., conductive and coated with an insulating layer on it's top and bottom, See col. 3, lines 7-19) mounted securely on said insulating substrate, a diaphragm unit (10) spaced apart from said back plate and aligned

Art Unit: 2615

with and movable relative to said back plate in a first transverse direction relative to said back plate (diaphragm 10 is mounted parallel to the backplate 12 and therefore moves in a transverse direction relative to the backplate when struck by sound waves and therefore changes the capacitance between the diaphragm and the backplate, See col. 3, lines 20-29), and a spacer unit (100, alternate embodiment of backplate and spacer, See Fig. 5) interposed between and in contact with said back plate (112) and said diaphragm unit so as to support said diaphragm unit on said back plate and so as to define a variable gap thereamong (See Fig. 1 and col. 3, lines 7-37), said spacer unit defining at least a first air passage that extends in a second transverse direction (106, 108, 110, See Fig. 5A) relative to said first transverse direction and that is disposed between and in spatial communication with said inner space and said variable gap.

Regarding claim 2, Kay further discloses said spacer unit (100) includes a plurality of spaced apart spacer blocks around said variable gap and defines a plurality of said first air passages, each of which is defined by two adjacent ones of said spacer blocks (See Figs. 5 and 5A and col. 4, lines 39-45).

Regarding claim 4, Kay further discloses said diaphragm unit includes a compliant layer (10) formed on said spacer unit, and a conductive film formed on said compliant layer and defining an electrode of said variable gap condenser (diaphragm 10 is formed of a compliant layer of well known material such as metal film or metallized polymer film stretched and glued over a diaphragm frame 16 for response to impinging sound waves, See col. 3, lines 3-34).

Regarding claim 5, Kay further discloses a field effect transistor (180) mounted on said insulating substrate (PCB) and connected electrically to said electrode (See Fig. 1 and col. 5, lines 1-6).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kay in view of Kajihara et al. U.S. Patent No. 7,062,052.

Regarding claim 6, Kay discloses a condenser microphone as claimed. Kay does not expressly disclose an electret formed on said back plate and disposed between said back plate and said spacer unit. However, the use of an electret on the backplate of a condenser microphone unit is well known in the art and Kajihara teaches an electret (140a) on the back plate (140) and disposed between the backplate and a spacer (180) (See Kajihara Fig. 1 and col. 6, line 5 to col. 7, line 28). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the electret of Kajihara in the condenser microphone of Kay to provide an electret condenser microphone simple to assemble and inexpensive in cost (See Kajihara col. 2, lines 56-61).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kay in view of Nakabayashi U.S. Patent No. 6,738,484.

Regarding claim 7, Kay discloses a condenser microphone as claimed. Kay teaches said condenser comprises a housing further having a cover (a protective grill, See col. 3, lines 2 and 3) that covers a top opening. Kay does not expressly disclose the construction of the housing (20

Art Unit: 2615

as seen in Fig. 1). However, condenser microphone housings are well known in the art and Nakabayashi teaches said condenser housing (1) comprising a condenser microphone and having a bottom wall (1a), a peripheral wall (1, left and right sides of fig. 1 separated from the condenser by a gap (1c) extending upwardly from said bottom wall and spaced apart from said variable gap condenser, and a top wall (1b) opposite to said bottom wall and extending laterally from said peripheral wall, said insulating substrate (3) being mounted on said bottom wall of said condenser housing, said top wall being spaced apart from said diaphragm unit (7) and being formed with a top opening (2) that is aligned with said diaphragm unit, said top opening in said top wall and that permits transmission of sound waves therethrough (See Nakabayashi Fig. 1 and col. 4, line 41 to col. 5, line 30). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the well known housing construction of Nakabayashi as the housing of Kay to contain and protect the condenser microphone.

### ***Allowable Subject Matter***

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

Art Unit: 2615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, Va. 22313-1450

**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Arlington, VA 22314

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Brian Ensey  
Examiner  
November 8, 2006